

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number  
**WO 2005/096075 A1**

(51) International Patent Classification<sup>7</sup>: **G02F 1/01**, (74) Agents: WILLIAMSON, Paul, L. et al.; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HIA (GB).

(21) International Application Number: PCT/IB2005/051012 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 24 March 2005 (24.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0407230.2 30 March 2004 (30.03.2004) GB

(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WILDERBEEK, Johannes, T. A. [NL/NL]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HA (GB). BURDINSKI, Dirk [DE/DE]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HA (GB). DEN TOONDER, Jacob, M., J. [NL/NL]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HA (GB). KRANS, Jan, M. [NL/NL]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HA (GB). VAN BRUGGEN, Michel, P., B. [NL/NL]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill Surrey RH1 5HA (GB).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

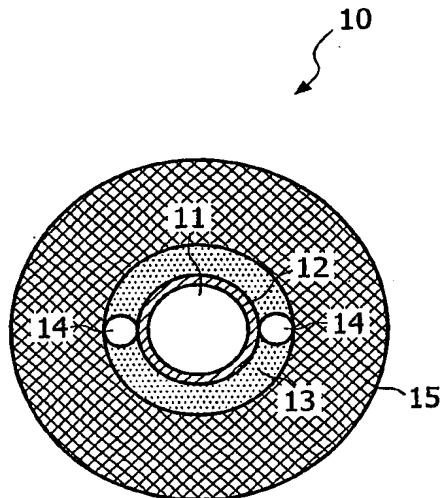
Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM.

[Continued on next page]

(54) Title: OPTICAL FIBRE WITH LATERAL ELECTRIC FIELDS

WO 2005/096075 A1



(57) Abstract: A filament or fibre (10), comprising an elongate core (11) having a core axis, and a substance (13) having at least one electrically modulatable optical characteristic, covering at least a portion of the core. The filament or fibre further comprising an electrical stimulation means (12) adapted to produce an electric field extending in a direction substantially parallel to the core axis or in a direction extending substantially circumferentially about the core axis, wherein the electric field electrically induces a change in the optical characteristic of the substance, thereby changing the visual appearance of the filament or fibre.



PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.